Advanced laser architecture for mass spectrometry project

Completed Technology Project (2015 - 2016)

Project Introduction

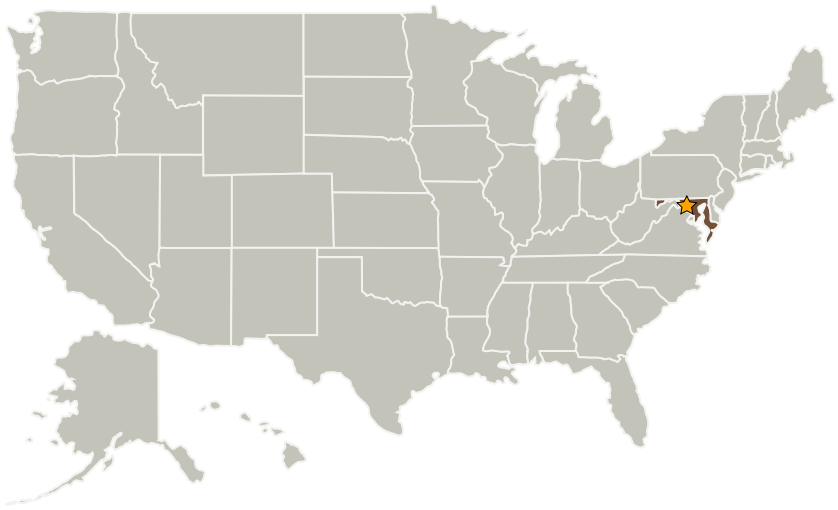
For the FY16 IRAD, we will focus our development effort on a new laser architecture that is based on the Lunar Orbiter Laser Altimeter (LOLA) laser transmitter. This approach will generate the necessary mid-infrared (MIR) and ultraviolet (UV) lasers on a single laser bench with a straightforward development path toward flight readiness.

Our FY16 objectives are for technology maturation for risk reduction and defining a path for space for this laser transmitter.

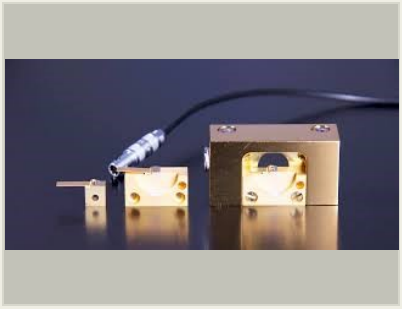
Anticipated Benefits

Planetary and Earth science in-situ mass spectrometer instrumentation.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland



Advanced laser architecture

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Center Independent Research & Development: GSFC IRAD

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Primary U.S. Work Locations
Maryland

Images

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(https://techport.nasa.gov/image/19277)

Project Website:

http://aetd.gsfc.nasa.gov/

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

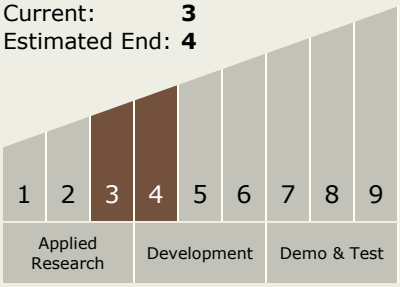
Terence A Doiron

Principal Investigator:

Brook Lakew

Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **4**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers